

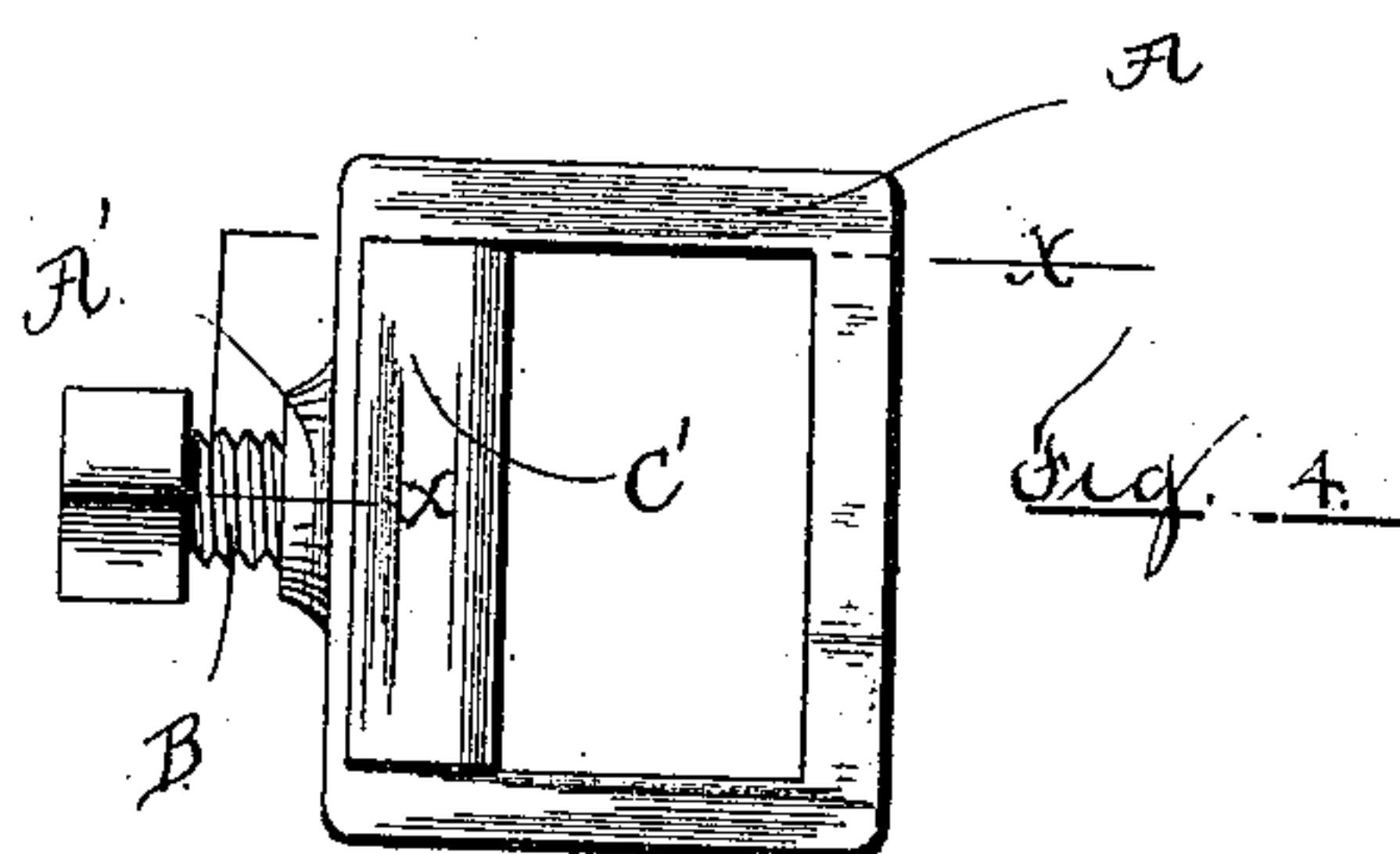
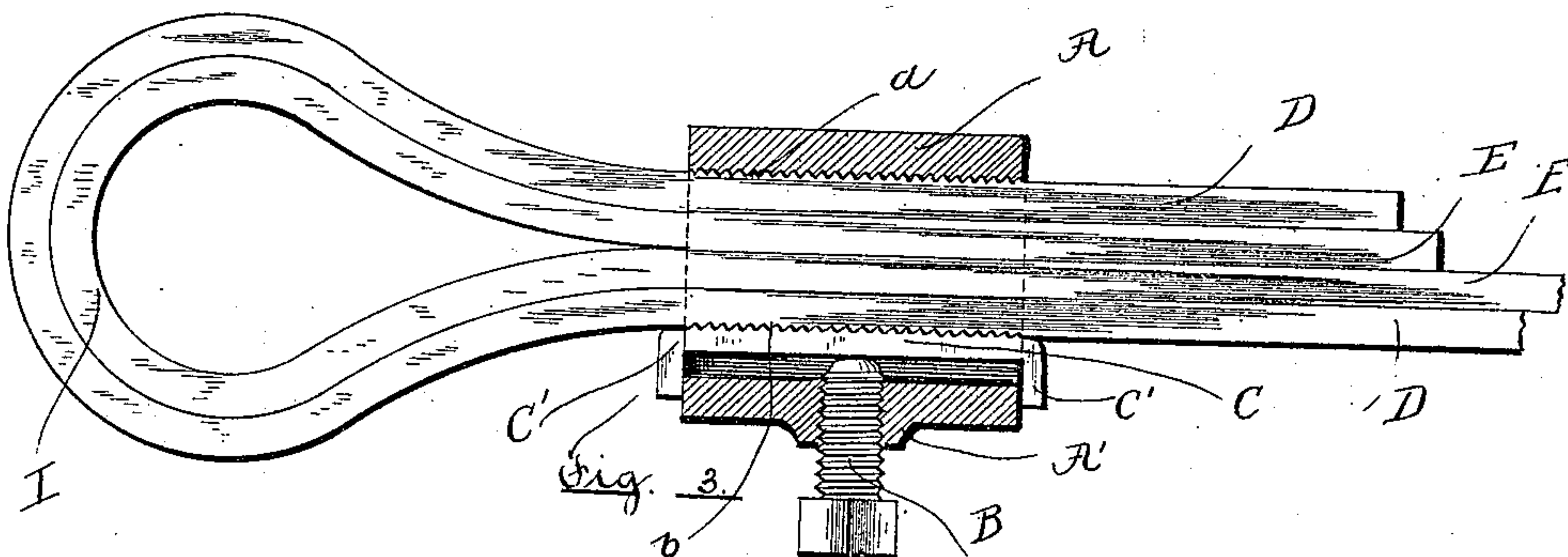
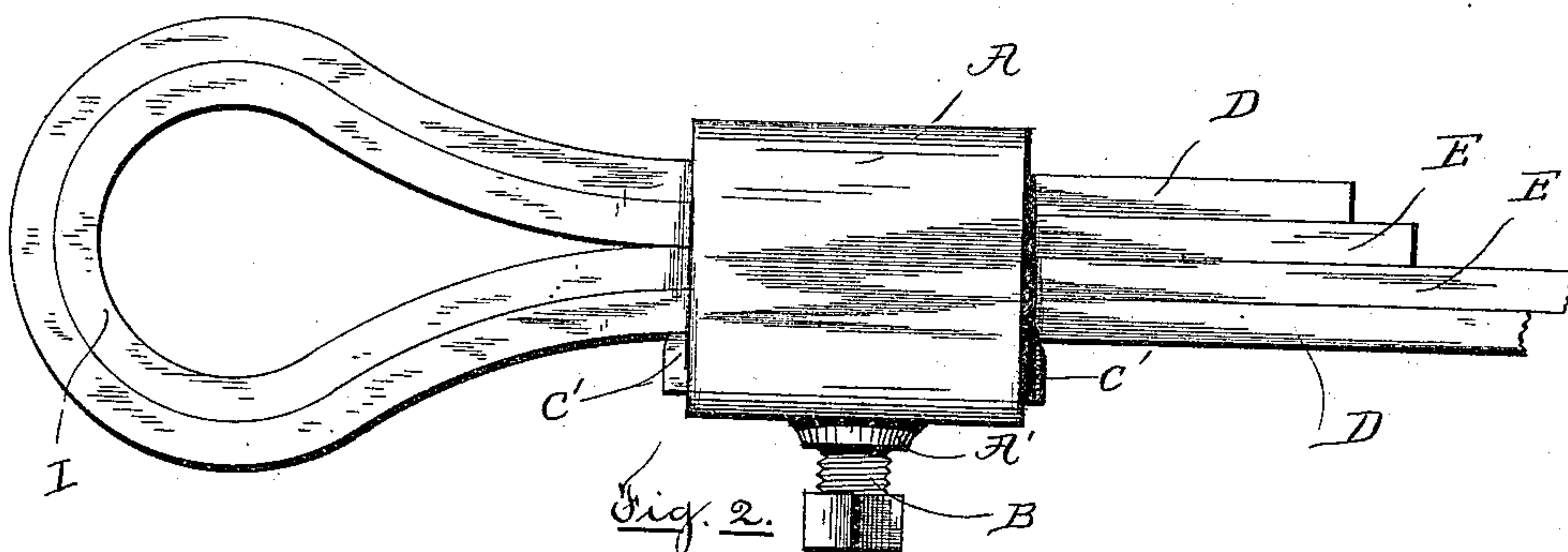
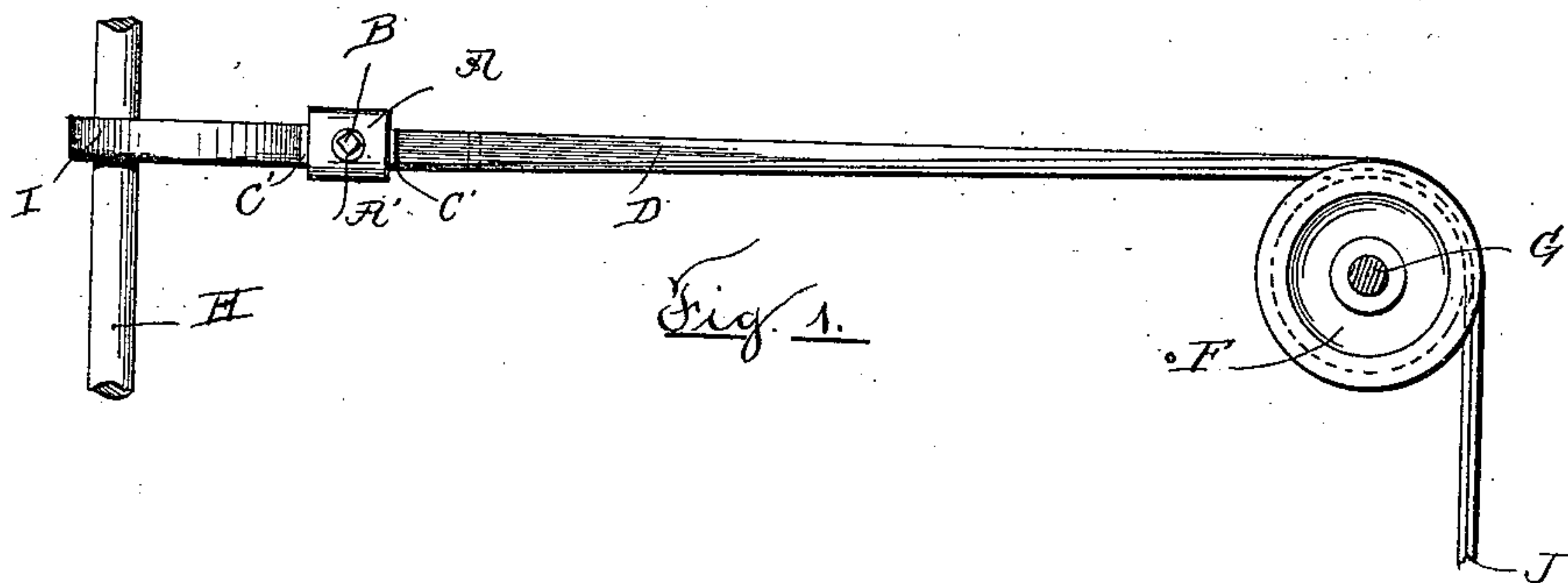
(No Model.)

T. McCARTY.

PICKER STAFF OPERATING DEVICE FOR LOOMS.

No. 447,841.

Patented Mar. 10, 1891.



Witnesses  
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Thomas H. Dodge



# UNITED STATES PATENT OFFICE.

THOMAS McCARTY, OF CHARLTON, MASSACHUSETTS.

## PICKER-STAFF-OPERATING DEVICE FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 447,841, dated March 10, 1891.

Application filed July 21, 1890. Serial No. 359,366. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS McCARTY, of Charlton, in the county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Picker-Staff-Operating Devices for Looms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters of reference marked thereon, and in which—

Figure 1 represents a side view of my said invention, as will be hereinafter more fully described. Fig. 2 represents upon an enlarged scale a top view of a portion of the parts shown in Fig. 1, as will be hereinafter more fully described. Fig. 3 represents upon the same enlarged scale a top view of the parts shown in Fig. 2, with some of the parts in section, as will be hereinafter more fully described, line of section marked *x x* Fig. 4; and Fig. 4 represents upon the same enlarged scale an end view of the strap-clamping device detached, as will be hereinafter described.

To enable those skilled in the art to which my invention belongs to make and use the same, I will now describe the invention in detail.

In the drawings, the part marked A is a metallic rectangular-shaped clasp-piece having on one side a conical projection A', through which a screw-hole is formed to receive the set-screw B, as fully indicated in the drawings. A set or clamping plate C, having bent or hooked ends C', is arranged on the front side of the rectangular opening in the rectangular metal piece A, and against the side of which clamp-plate C the point of set-screw B presses when it is screwed in to hold the ends D E of the picker-staff strap J in place after they have been adjusted in the rectangular opening in the metal piece A to give the desired throw to the picker-staff H, a portion of which is shown in Fig. 1, loop I encircling it. It will be understood that loop I is supported on the picker-staff in the usual manner. Generally a loop is attached to the picker-staff at the right height and the ends D E of picker-strap J passed through it before they are passed in and through the hole in metal piece A, as shown in the drawings. It will also be understood that the picker-

strap passes over the grooved pulley F, having a proper journal or support G, upon which it turns, strap J being double, but turned so that the flat sides of the strap rest in the groove of the pulley as it works back and forth in the usual manner.

As my invention relates to the devices for adjusting and holding the ends D E of the strap, it is unnecessary to show or describe the parts of the loom, as they may be of the usual and common construction. Strap J is made in one piece and then doubled when applied to use, the double center extending down below pulley F and receiving or encircling that part which draws the strap down to give the proper throw to the picker-staff. The inner face of the clamp-piece C is provided with grooves or corrugations *b*, while the opposite inner face of the metal piece A is provided with similar grooves *a*. The object of these grooves *a* and *b* is to hold the ends of strap J more securely, since when clamp C is forced in by set-screw B the grooves *a* and *b* receive the surface of the strap, as indicated in Fig. 3, and thus hold the parts more securely than would be the case if the metal surfaces were smooth.

By my invention the lengths of the picker-strap J between the picker-staff and its operating device can be quickly adjusted to the desired length, be the same more or less, and that, too, without injury to the strap.

Heretofore it has been the practice to attach a buckle to the doubled part of the strap and then pass the ends of the strap around the picker-staff and then back and through the buckle; but this old mode is attended with serious objections, since the strap has to be punched full of holes to receive the buckle-tongue, and the ends are thus greatly weakened and the holes soon break out and the strap has to be renewed, which involves large expenses in an extensive mill. Again, when buckles are used the adjustment cannot be made in a slight degree, for the holes must be at some distance apart in order to hold at all, whereas with my invention the adjustment can be very slight, and that, too, without injury or endangering the strength of the strap. Consequently my invention enables the loom-tender to secure the greatest possible degree of adjustment in length of strap to render the



action of picker-staff perfect in the throw of the shuttle, and which result has been heretofore greatly desired, but never attained until the production of my said invention. It will be observed that the hooked ends C' C' of clamp-piece C keep the latter in place as it is forced in to clamp and hold the picker-strap ends D E in the desired position.

By the use of the old strap device, owing to its constantly breaking, a loss was incurred by the manufacturer by the shuttle stopping in the web and breaking out the warp, while the delay in making repairs in such cases added still further to the expense. As loop I is formed by the ends D and E, the end D closely overlapping the end E, while both ends are held in the metal piece A by being clamped against the doubled part of the strap J, the result is a spring action to loop I when strap J is operated to throw the picker-staff, and which spring tends greatly to the more perfect action of the picker-staff and shuttle, while at the same time greatly relieving the strain on strap J and the picker-staff H when the shuttle is first started from a stationary or dead position. This will be readily understood by those skilled in the art, since the action of the treadle or arm of the loom which gives motion to strap J is sudden and positive, and being communicated to strap J and through that to picker-staff H a great strain is brought on both when the dead weight of the shuttle is first started. If the picker-staff is so made and its connection with its strap is such as to admit of its bending slightly at its middle or at the point of its connection with its strap, the sudden strain is eased a little; but with my invention picker-staff H is not only free to spring at the center, but loop I, under the sudden pull and strain, yields for the instant by being drawn down to a more oblong shape, thereby easing the strain both on the picker-staff and its strap,

while the shuttle makes a more certain start and final flight through the web than it otherwise would, a too sudden blow on the outer end of the shuttle being liable to cause the shuttle to "bob" and make overshots or fly out. As soon as the shuttle is fairly in motion loop I assumes its normal position.

When it becomes necessary or desirable to shorten strap J, the operator has only to loosen screw B, and bearing on the side of the loop formed by the re-turned ends D and E with his fingers slide them a little farther back through the metal piece A and then tighten up screw B, and the work is done, while loop I remains with all its elasticity.

When necessary to make considerable shortening of strap J, the operator has only to push the doubled body part forward through metal piece A and the ends D and E back through it; but loop I still retains all of its elastic functions.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of picker-staff H and operating-strap J, having its doubled body turned to a vertical horizontal position as it passes through metal piece A and thence around the picker-staff to form an outer circular and inner elongated loop I for encircling the picker-staff, with its ends D and E turned back and passed through metal piece A and arranged parallel with the doubled part of strap J therein, metal piece A, having cross-grooves *a* on one of its vertical inner sides, the piece C, having cross-grooves *b* on its inner face, and screw B, all substantially as shown and described, and for the purposes set forth.

THOMAS McCARTY.

Witnesses:

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